

Michael E. Nelson
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SUMMARY

Pursuing a full-time position designing and developing technical solutions to challenging problems. Moving to the D.C. metro area upon M.A. graduation in May 2017.

EDUCATION & PROFESSIONAL TRAINING

Michigan State University, East Lansing, MI 2015 – 2017
M.A., Media and Information, Concentration in Media and Information Management

Udacity.com, Mountain View, CA 2015
Front-End Web Developer Nanodegree

North Park University, Chicago, IL 2007 – 2011
B.A., History, Summa Cum Laude

PROFESSIONAL EXPERIENCE

School of Social Work, Michigan State University 2017 –
Full Stack Web Developer

- Continuing work on a proof-of-concept analytics dashboard that I built (previously, for a course in project management, on a team with three other students) for the interdisciplinary Michigan Stroke Transitions Trial (MISTT) project
- Designing and implementing Flask (Python) controllers and data models to securely accept, preprocess, model, and persist case data in the form of Microsoft Excel, CSV, and Stata output and log files; relating these case data with Google Analytics data consumed via web API
- Extracting patient/caregiver goals from unstructured text data; transforming goal data into feature matrices with SciPy (Python); performing clustering analyses (k-means) with scikit-learn (Python) to assign appropriate topic labels for each
- Documenting system functionality with Sphinx (Python) and dgeni (Angular.js)
- Writing unit tests to improve the resilience of the project's Angular.js and Flask systems
- Training project researchers in the use of the system

Matrix Center for Digital Humanities and Social Sciences 2017 –
Front-End Developer

- Implementing responsive, mobile-first WordPress theming from designers' comps
- Collaborating on version-controlled repositories (Subversion)

Department of Media and Information, Michigan State University 2016
Graduate Research Assistant

- Programmatically collected citation data from Elsevier Scopus and Thomson Reuters Web of Knowledge

- Performed bibliometric and citation analyses using Pajek and networkx (Python)

Department of Advertising and Public Relations, Michigan State University 2015 –
Data Analyst and Research Assistant

- Developing web implementations of the Affect Misattribution Procedure (AMP) and the Taylor Aggression Paradigm (TAP), as JavaScript applications for administration on the Qualtrics research platform
- Administering the collection of self-report data with Qualtrics, psychophysiological data with BIOPAC and AcqKnowledge, and reaction-time and eye-tracking data with DirectRT and Tobii Pro Studio
- Cleaning and transforming psychophysiological signal data with pandas (Python) to render data suitable for analysis in SPSS

College of Arts and Letters, Michigan State University 2015 – 2016
Web Accessibility/Usability Intern

- Remediated websites and courseware for accessibility and usability
- Wrote technical reports on accessibility for College sub-unit decision-makers

DRW College Prep High School, Chicago, IL 2015
Paraprofessional and Instructor

- Provided support and targeted teaching to students with IEPs
- Designed and implemented remedial English Language Arts courses

American Homeowner Preservation Capital Management, Chicago, IL 2012 – 2015
Litigation and Documentation Specialist, and Senior Asset Manager

- Planned, negotiated, and implemented dispositions of distressed mortgages in settlements, short sales, and foreclosures
- Wrote documentation (used for training interns and new hires) on workflows, strategies, and procedures for the firm's asset managers
- Trained interns and new hires
- Managed transfers of custody of collateral documents between and among the firm and its various loan servicers, legal representatives, and document custodians

Faculty of English, Adam Mickiewicz University, Poznań, Poland 2011 – 2012
Visiting Fulbright Lecturer

- Designed and implemented B.A. and M.A. courses in history and English
- Initiated exploratory committee on the prospect of starting a writing center

North Park University, Chicago, IL 2010
Peer Academic Advisor and Writing Advisor

- Assisted teaching a section of first-year rhetoric and composition
- Tutored students in academic writing and the use of library resources

GRANTS, FELLOWSHIPS, & AWARDS

Cultural Heritage Informatics Graduate Fellowship Cultural Heritage Informatics Initiative, Michigan State University	2016 – 2017
Research Experience for Master's Students Graduate Fellowship School of Information, University of Michigan	2016
Thomas F. Baldwin Endowed Fellowship Department of Media and Information, Michigan State University	2016
M.A. Merit Scholarship Department of Media and Information, Michigan State University	2015 – 2016
Fulbright English Teaching Assistantship to Poland Fulbright Program, U.S. Department of State	2011 – 2012
Zenos and Barbara Hawkinson Prize for Best Paper in History Department of History, North Park University	2010
Presidential Scholarship North Park University	2007 – 2011

PERSONAL & FELLOWSHIP-FUNDED PROJECTS

Exploring Heritage Representation in CIDOC-CRM (Cultural Heritage Informatics Initiative)

- Developing a React.js application for exploring the CIDOC-CRM ontology by querying SPARQL endpoints of institutions like the British Museum and Europeana

Measuring Purchase Intention and Consumer Socialization on Instagram (Independent)

- Developing a Universal Windows Platform (UWP) tablet application to simulate the Instagram user experience; will be used to measure (in conjunction with eye-tracking measures) patterns of user attention to product placement versus explicit advertising

The Future of Data-Related Publication (ICPSR and the University of Michigan iSchool)

- Gathered requirements (in shadowing and semi-structured interviews) to inform the design of a system to support improved bibliography comprehensiveness, usability, and ingestion processes at the Inter-university Consortium for Political and Social Research's (ICPSR)
- Modeled processes involved in maintaining ICPSR's bibliography of data-related publications in UML, in terms of actors, use cases, process inputs and outputs, and activities

The Changing Character of Digital Divides (The Quello Center, Michigan State University)

- Analyzed archival survey data for substantive shifts in responses about Internet usage (using SPSS 23.0)
- Analyzed survey instruments for methodological shifts in the study of Internet usage

CONFERENCE PAPERS, PRESENTATIONS, AND PUBLICATIONS

Ten conference papers and one peer-reviewed journal publication in the areas of social media advertising, health communication, cultural adaptation in advertising, business process analysis, accessibility and instruction, and digital divides

KEY PROFESSIONAL SKILLS

Data analysis

- Network analysis with Pajek and networkx (Python)
- Tabular data analysis with SPSS and Microsoft Excel
- Network and tabular data wrangling with Microsoft Excel, pandas, NumPy, and SciPy (Python)
- Text data analysis and natural language processing with scikit-learn and nltk (Python)

Database design & development

- Relational data modeling in UML
- Data model implementation and normalization to third normal form in PostgreSQL and Microsoft Access

Web development

- Designing, developing, and securing server-side systems using the Flask Python web framework, and implementing data persistence using the SQLAlchemy ORM
- Building client-side systems with the Angular.js and Prototype.js JavaScript frameworks
- Automating tasks (unit-testing, linting, etc.) with webpack, grunt, and gulp for ES5 or for transpiling to ES2015 (ES6)
- Deploying systems and assets on Heroku and Microsoft Azure

Communication

- Writing technical and business documentation used for training new hires, managing knowledge, and reporting to stakeholders; training interns and new hires
- Training researchers and other graduate students in data analytic and wrangling techniques (e.g., how to use pandas [Python] to render psychophysiological signal data suitable for analysis in SPSS)

KEY ACCOMPLISHMENTS

- Led development of a proof-of-concept web application for supporting the data analysis of the interdisciplinary team of researchers on the Michigan Stroke Transitions Trial (MISTT) project, and was subsequently asked by the team to consult on the project for further development
- Designed and implemented two JavaScript applications for measuring (between-subject) aggression on Qualtrics, data from which are currently being used by an interdisciplinary Michigan State research team in pursuit of a NIH grant